

APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

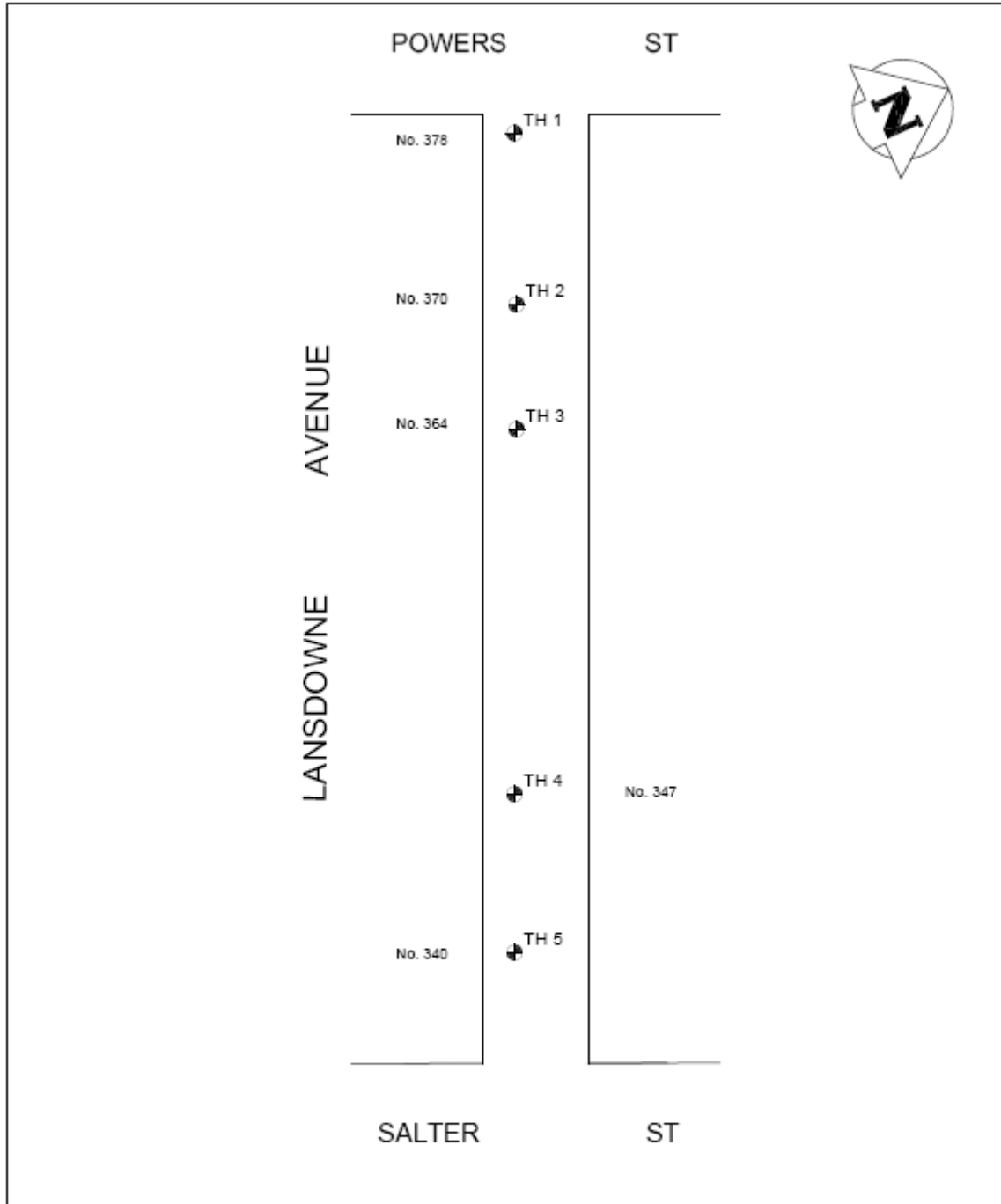
TABLE OF CONTENTS



GEOTECHNICAL REPORT FOR LANSDOWNE AVENUE	1
Test Hole Locations	1
Summary of Core Samples	2
Test Hole Log for Lansdowne Avenue T1	3
Test Hole Log for Lansdowne Avenue T2	4
Test Hole Log for Lansdowne Avenue T3	5
Test Hole Log for Lansdowne Avenue T4	6
Test Hole Log for Lansdowne Avenue T5	7
Particle Analysis for Lansdowne Avenue T2	8
Particle Analysis for Lansdowne Avenue T5	9
Pavement Core Photos for Lansdowne Avenue	10
GEOTECHNICAL REPORT FOR MACHRAY AVENUE	11
Test Hole Locations	11
Summary of Core Samples	12
Test Hole Log for Machray Avenue T1	13
Test Hole Log for Machray Avenue T2	14
Test Hole Log for Machray Avenue T3	15
Test Hole Log for Machray Avenue T4	16
Test Hole Log for Machray Avenue T5	17
Particle Analysis for Machray Avenue T2	18
Particle Analysis for Machray Avenue T4	19
Pavement Core Photos for Machray Avenue	20

The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.

Geotechnical Report for Lansdowne Avenue

Test Hole Locations for Lansdowne Avenue



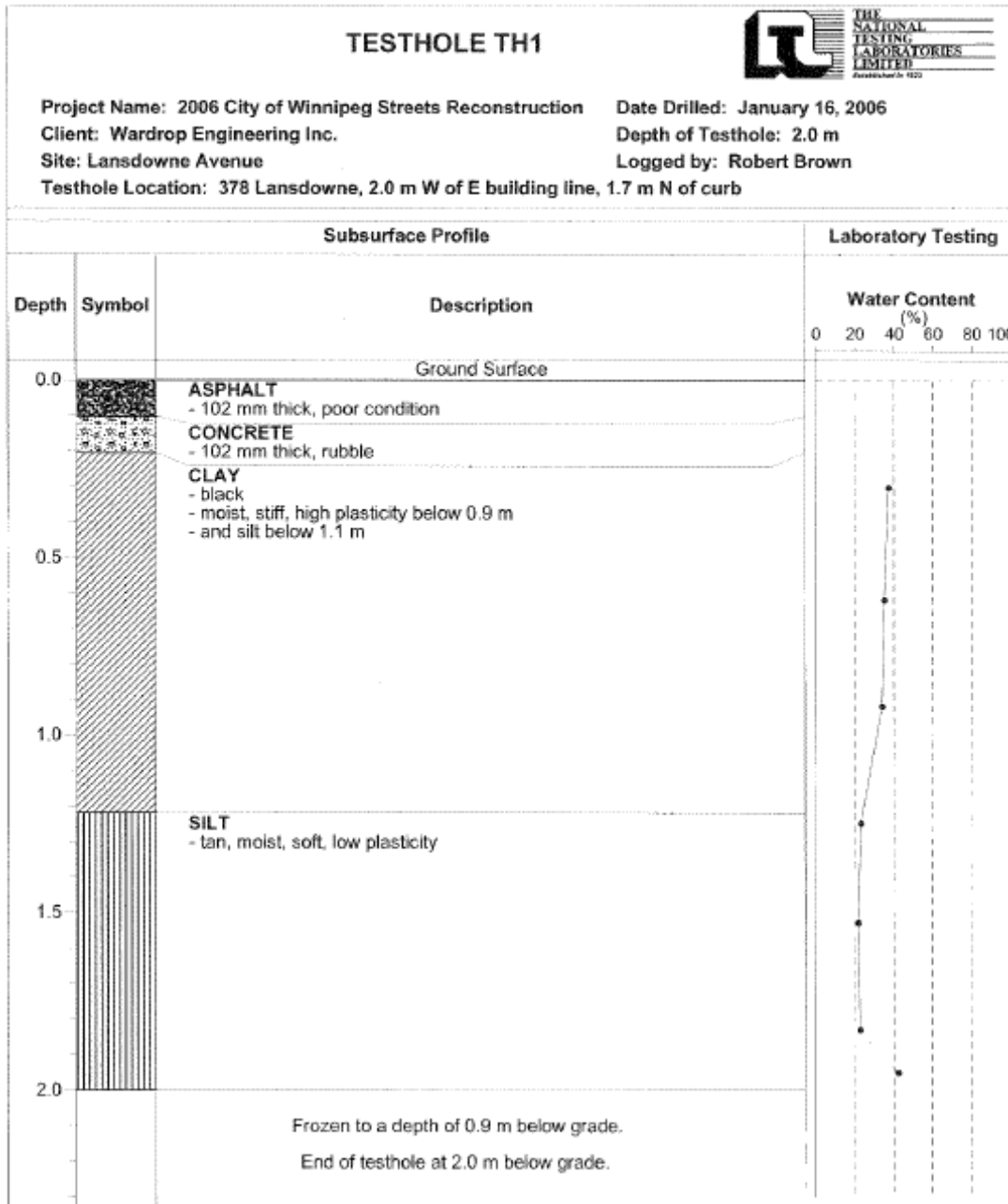
 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	2006 RESIDENTIAL STREET RENEWAL PROGRAM		
	LANSDOWNE AVENUE TEST HOLE LOCATIONS		
 WARDROP Engineering Inc.	DESIGNED BY:	DRAWN BY: GMD	DWG NO.
			0800070100_SKT-00001

Summary of Core Samples for Lansdowne Avenue

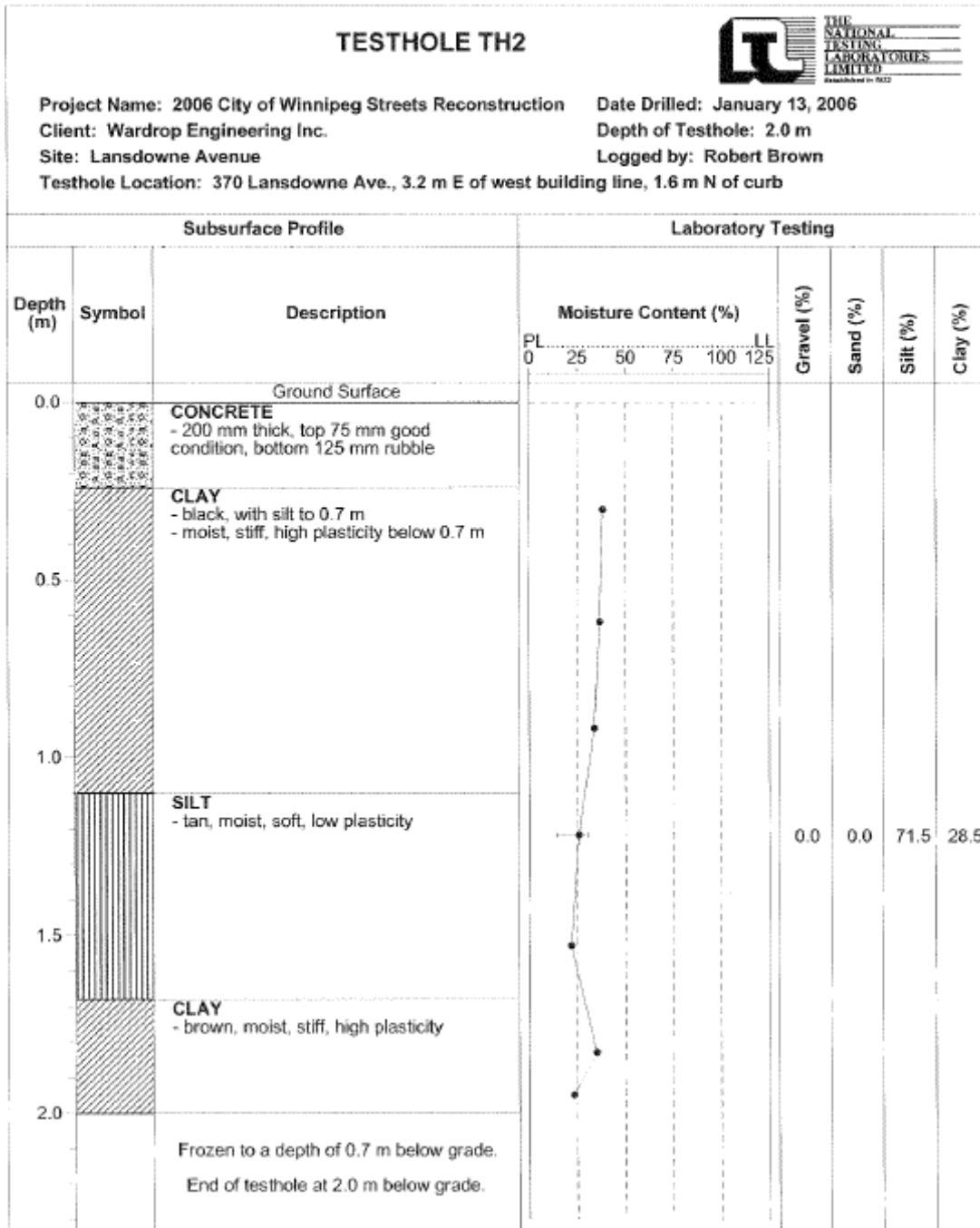
City of Winnipeg
 2006 Street Renewal Program
 Geotechnical Investigation

Testhole No.	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits			
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Limit	
1	Lansdowne Avenue	Asphalt/Concrete	102/102	NA	0											
2	Lansdowne Avenue	Concrete	200	NA	0	Silt	1.2	26.2	0.0	0.0	71.5	25.5	30	14	16	
3	Lansdowne Avenue	Asphalt/Concrete	35/130	NA	0											
4	Lansdowne Avenue	Asphalt/Concrete	32/134	NA	0											
5	Lansdowne Avenue	Asphalt/Concrete	64/158	NA	0	Clay	1.95	29.6	0	1.1	13.2	85.7	23	75	52	

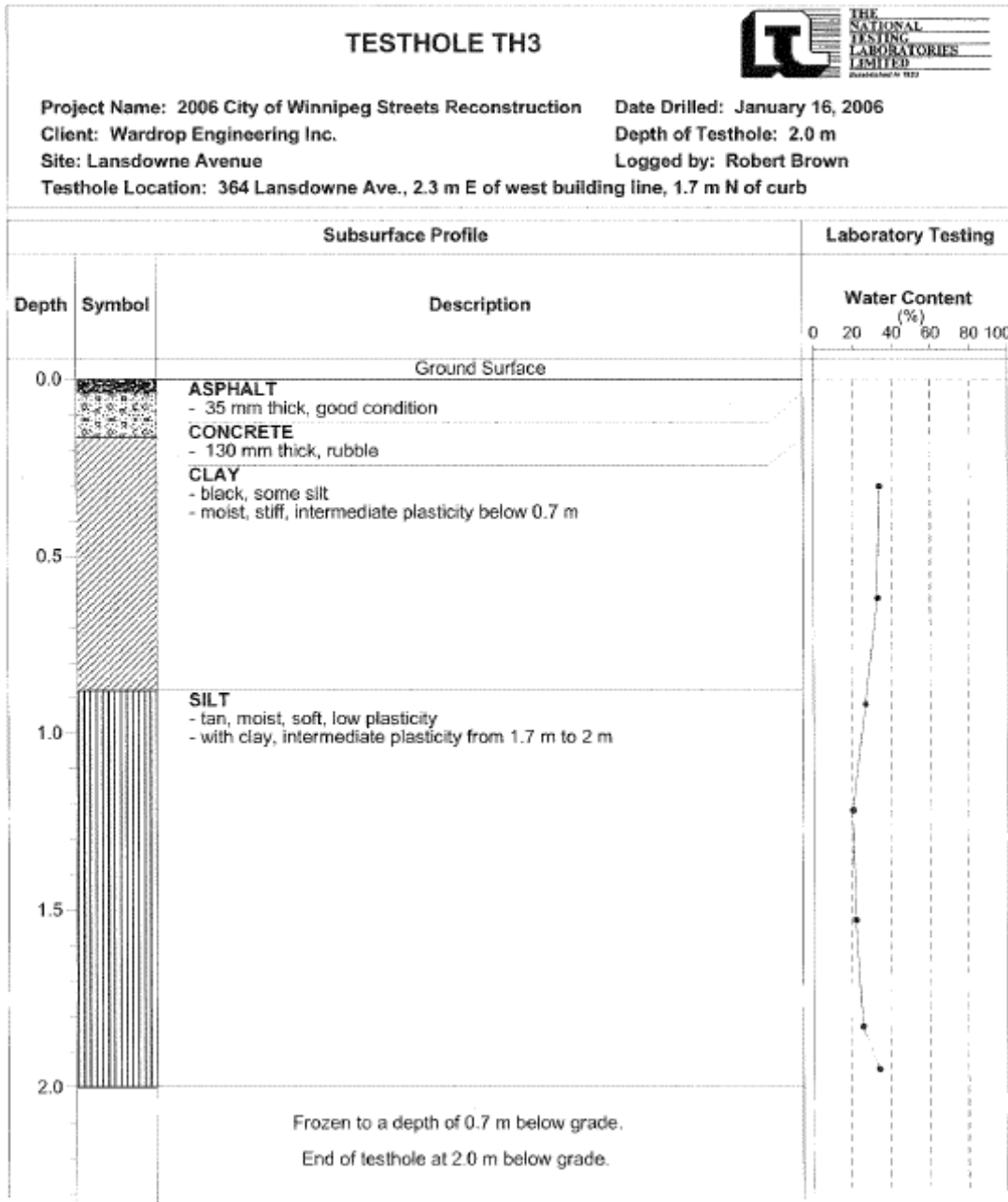
Test Hole Log T1 for Lansdowne



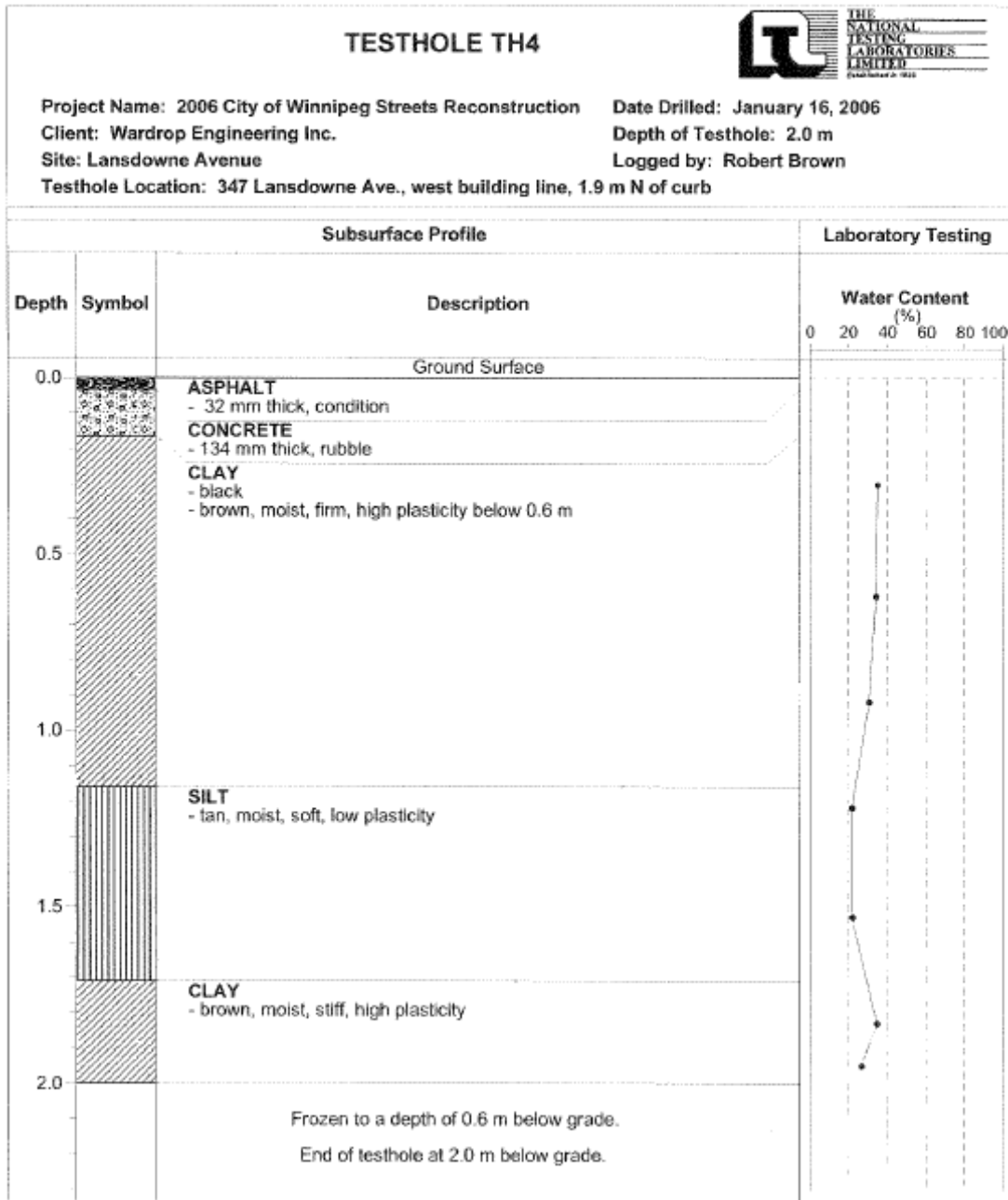
Test Hole Log T2 for Lansdowne Avenue



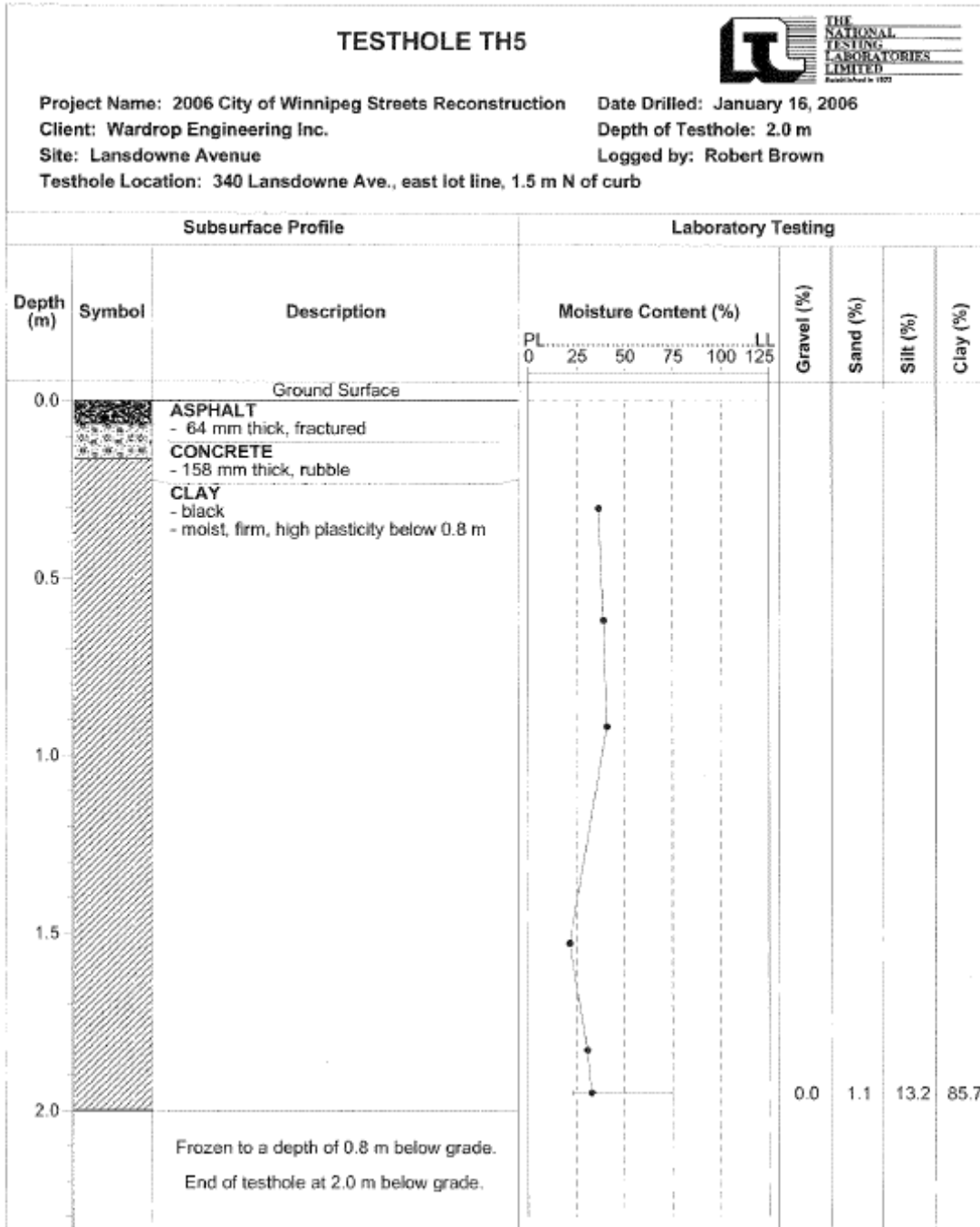
Test Hole Log T3 for Lansdowne Avenue



Test Hole Log T4 for Lansdowne Avenue



Test Hole Log T5 for Lansdowne Avenue



Particle Size Analysis T2 for Lansdowne Avenue



**PARTICLE SIZE ANALYSIS
 ASTM D422**

TO
 Wardrop Engineering Inc.
 400-386 Broadway
 Winnipeg, Manitoba
 R3C 4M8

CLIENT Wardrop Engineering Inc.
 C.C.

PROJECT 2006 Winnipeg Streets Reconstruction

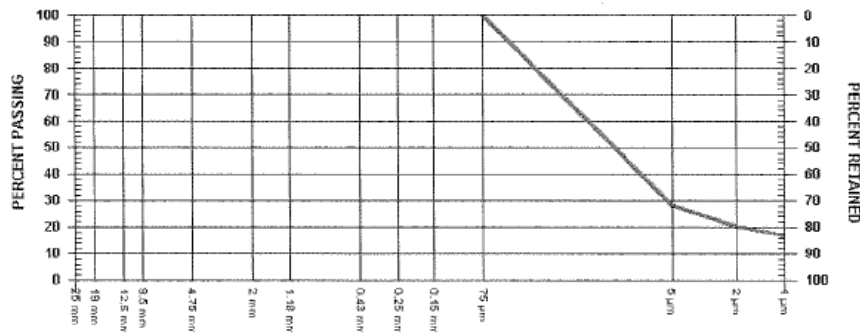
ATTN: Dean Lazaruk

REPORT NO. 3

PROJECT NO. WAR-601

SAMPLED BY R. Brown
 SAMPLE ID TH2-1.2m,370 Lansdowne

DATE RECEIVED 2006.Jan.16
 TESTED BY R. Brown



SIEVE SIZE	PERCENT PASSING
25 mm	
19 mm	
12.5 mm	
9.5 mm	
4.75 mm	

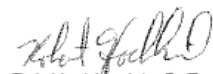
SIEVE SIZE	PERCENT PASSING
2 mm	
1.18 mm	
0.43 mm	
0.25 mm	
0.15 mm	

PARTICLE SIZE	PERCENT PASSING
75 µm	100.0
5 µm	28.5
2 µm	20.5
1 µm	17.2

Hydrometer analysis conducted on material passing the 75 µm sieve.

COMMENTS

Page 1 of 1 2006.Mar.15

REVIEWED BY 
 Rob Hochklevich, C. Tech.

Particle Size Analysis T5 for Lansdowne Avenue



**PARTICLE SIZE ANALYSIS
 ASTM D422**

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 R3C 4M8

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 C.C.

PROJECT 2006 Winnipeg Streets Reconstruction

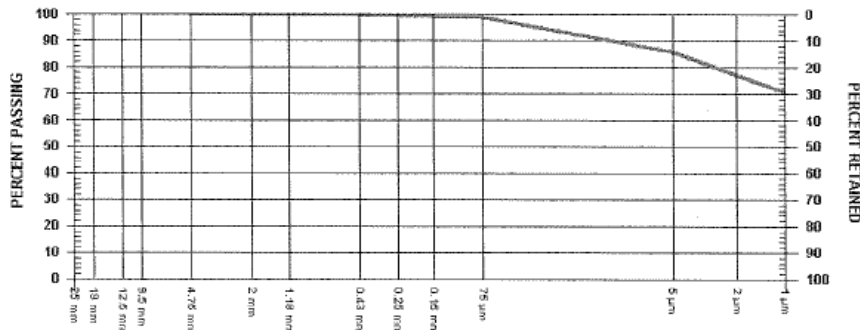
ATTN: Dean Lazaruk

REPORT NO. 4

PROJECT NO. WAR-601

SAMPLED BY R. Brown
 SAMPLE ID TH5-1.9m,340 Lansdowne

DATE RECEIVED 2006.Jan.16
 TESTED BY R. Brown



SIEVE SIZE	PERCENT PASSING
25 mm	
19 mm	
12.5 mm	
9.5 mm	
4.75 mm	100.0

SIEVE SIZE	PERCENT PASSING
2 mm	99.9
1.18 mm	99.9
0.43 mm	99.9
0.25 mm	99.5
0.15 mm	99.2

PARTICLE SIZE	PERCENT PASSING
75 µm	98.8
5 µm	85.7
2 µm	77.3
1 µm	70.8

Hydrometer analysis conducted on material passing the 75 µm sieve.

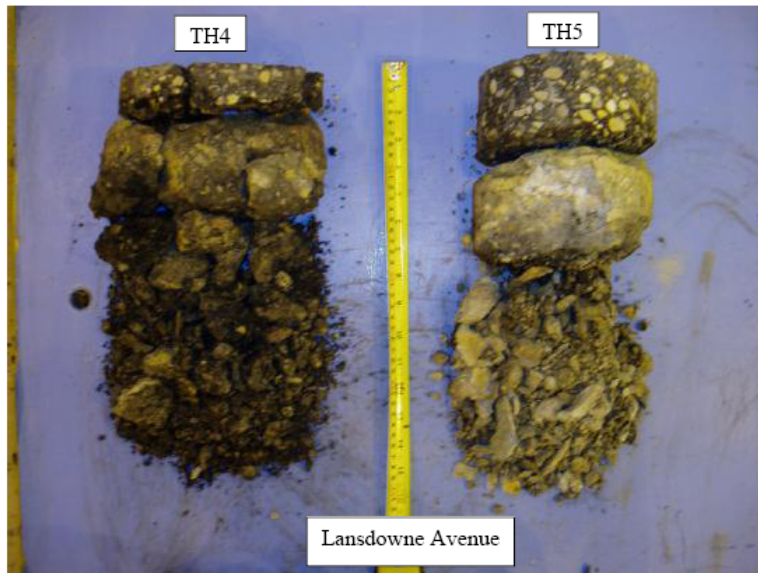
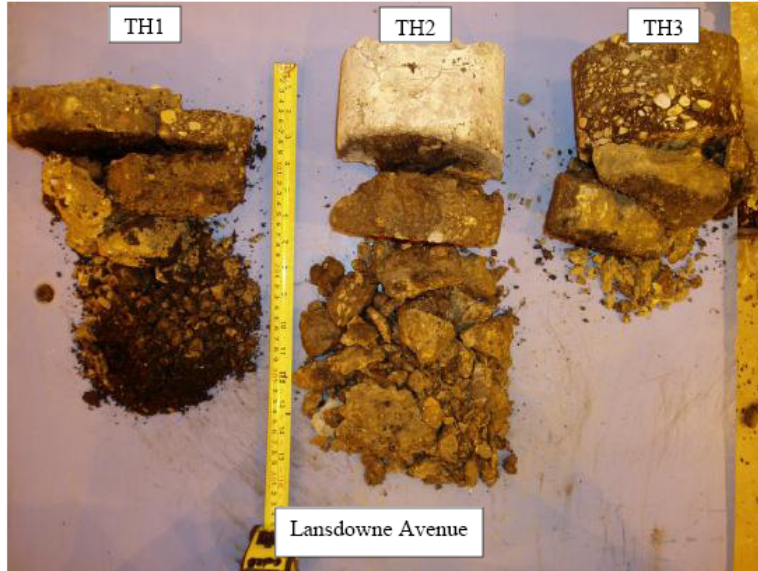
COMMENTS

Page 1 of 1 2006.Mar.15

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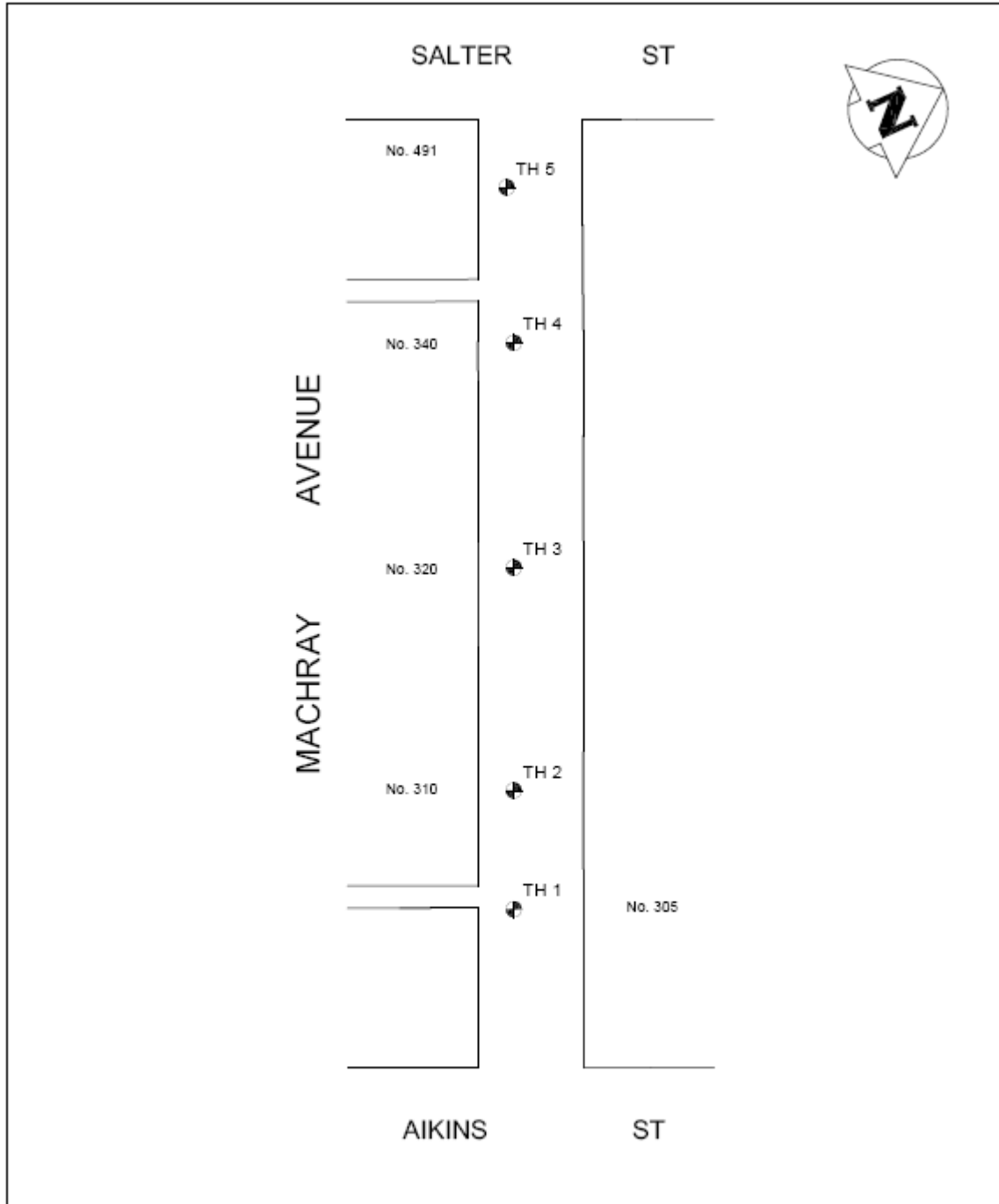
Robert Hochkiewicz
 Rob Hochkiewicz, C. Tech.



Pavement Core Photos for Lansdowne Avenue



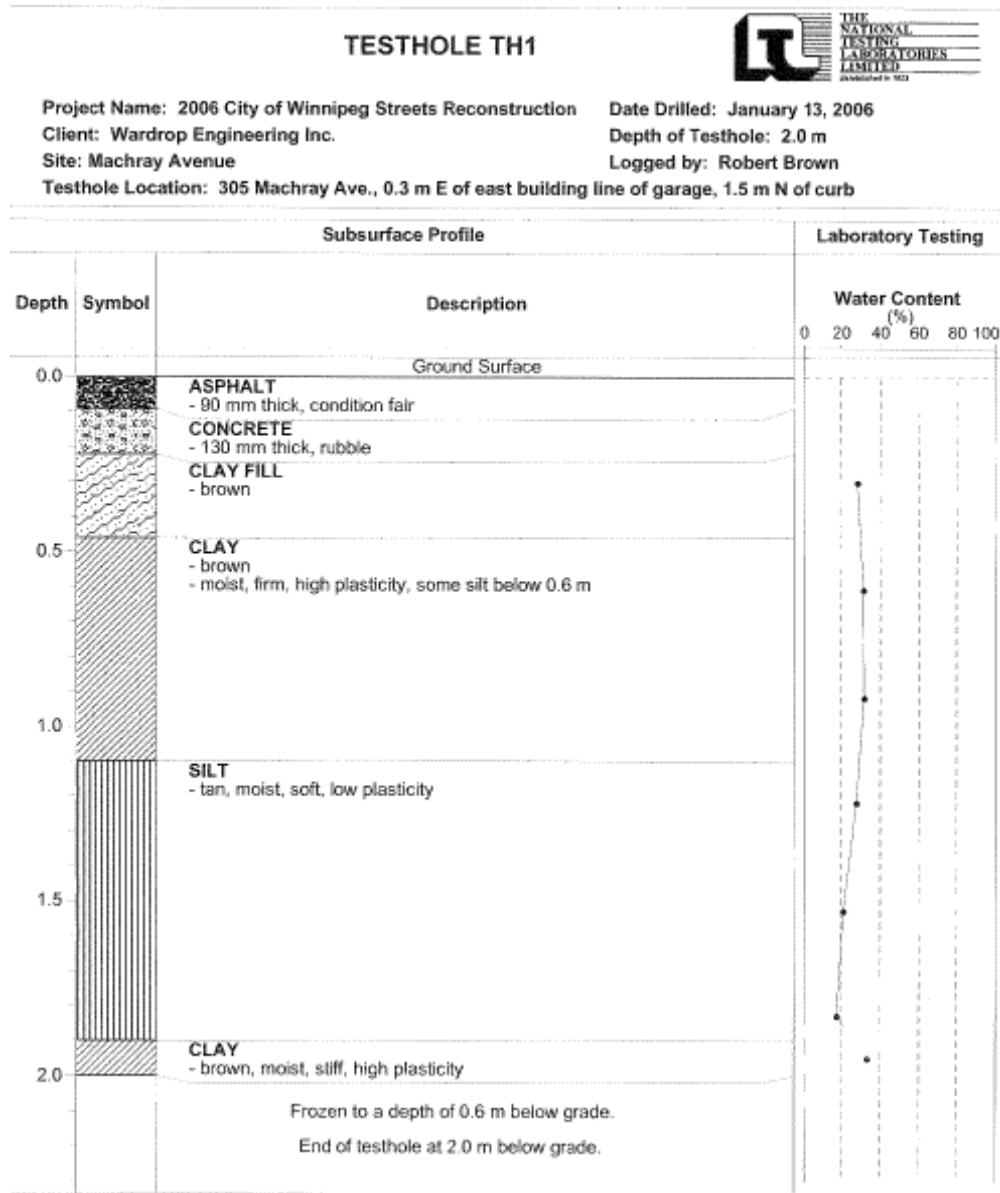
Geotechnical Report for Machray Avenue

Test Hole Locations for Machray Avenue

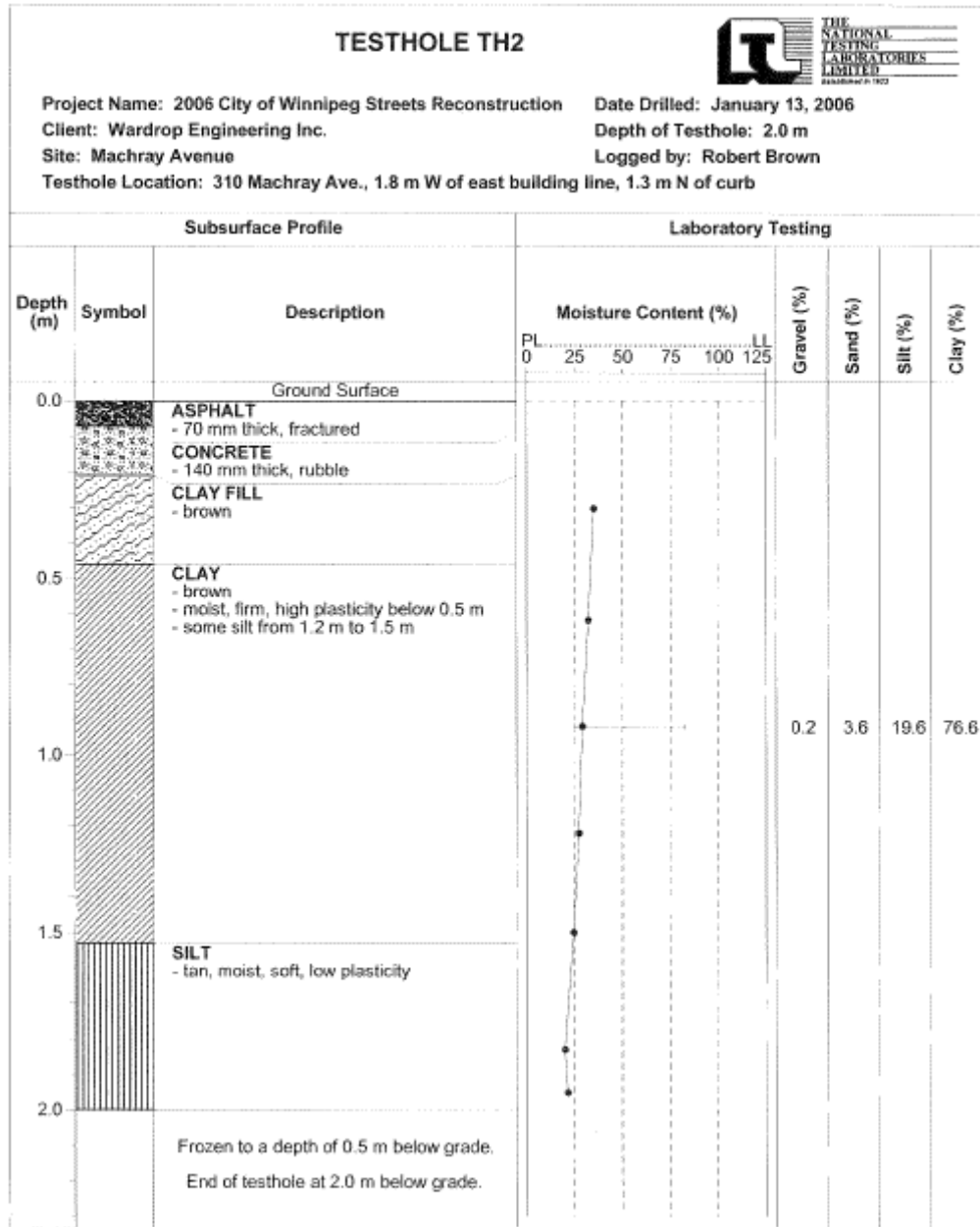


 THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	2006 RESIDENTIAL STREET RENEWAL PROGRAM		
	MACHRAY AVENUE TEST HOLE LOCATIONS		
 Wardrop Engineering Inc.	DESIGNED BY:	DRAWN BY: GMD	DWG NO.
			0800070100-SKT-0000?

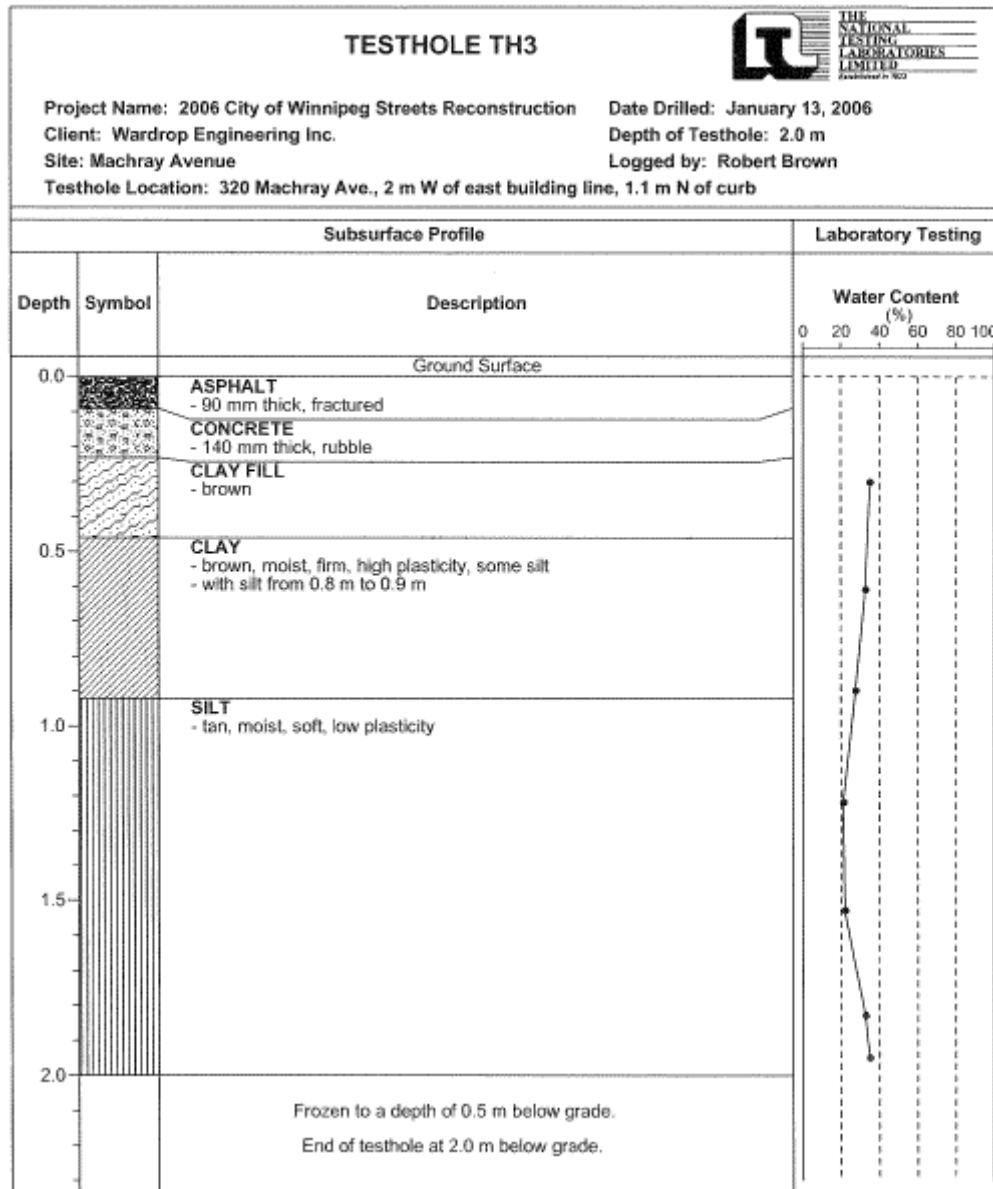
Test Hole Log T1 for Machray Avenue



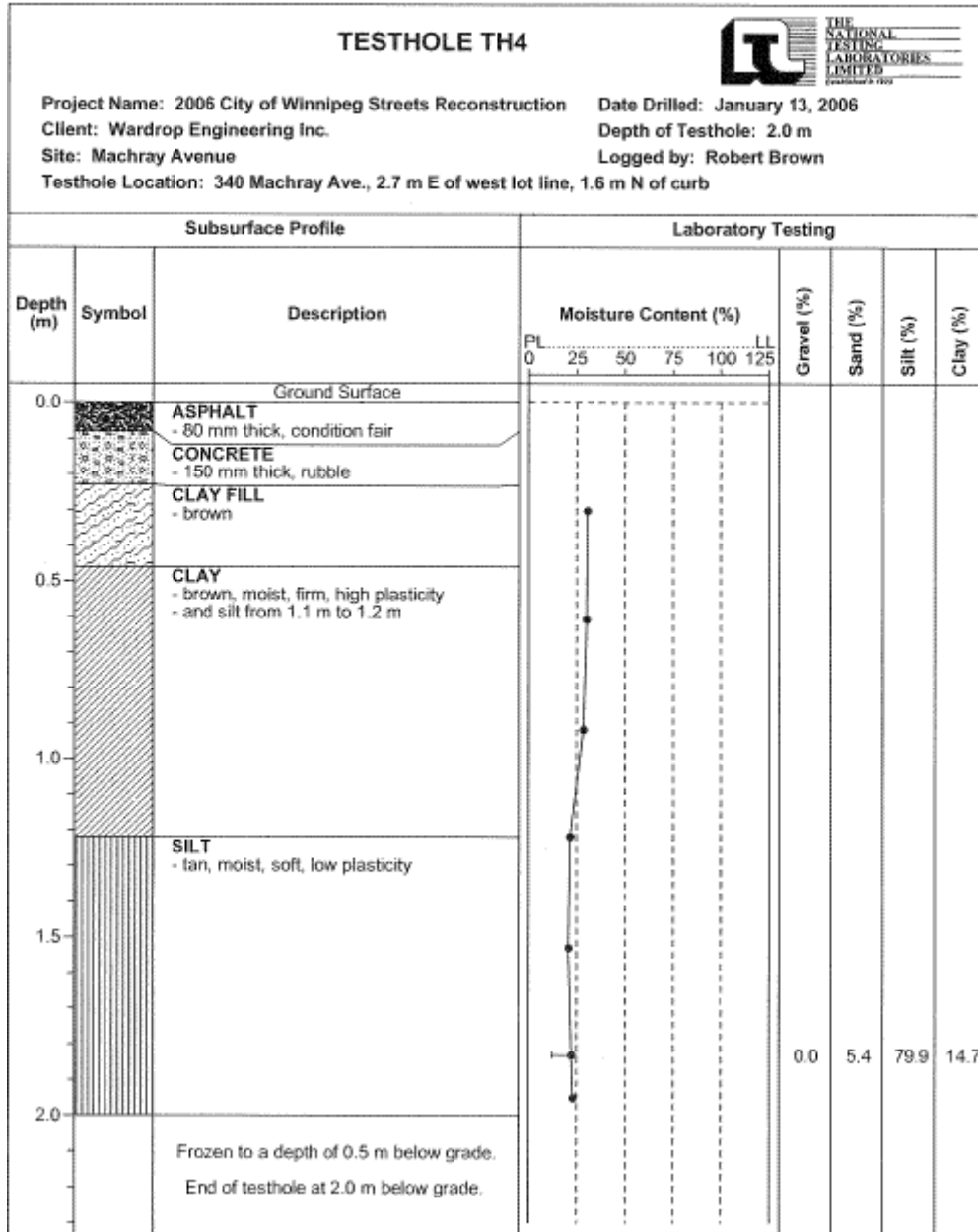
Test Hole Log T2 for Machray Avenue



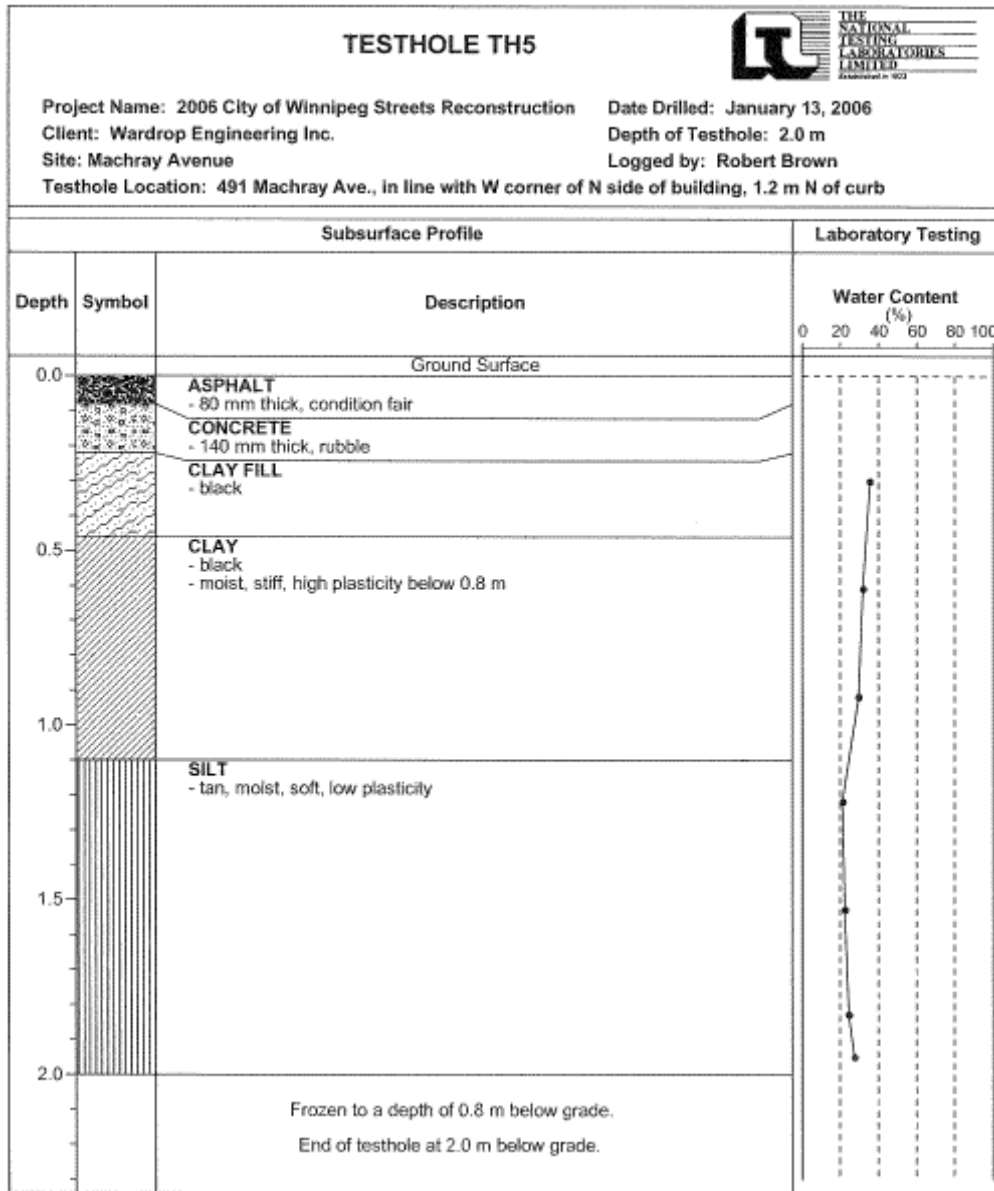
Test Hole Log T3 for Machray Avenue



Test Hole Log T4 for Machray Avenue



Test Hole Log T5 for Machray Avenue



Particle Size Analysis T2 for Machray Avenue



**PARTICLE SIZE ANALYSIS
 ASTM D422**

TO
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 Winnipeg, Manitoba
 R3C 4M8

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 C.C.

PROJECT 2006 Winnipeg Streets Reconstruction

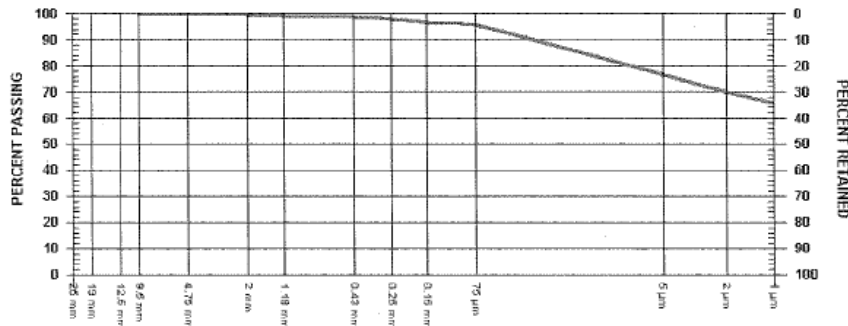
ATTN: Dean Lazaruk

REPORT NO. 1

PROJECT NO. WAR-601

SAMPLED BY R. Brown
 SAMPLE ID TH2 - 0.9m, 310 Machray

DATE RECEIVED 2006.Jan.16
 TESTED BY R. Brown



SIEVE SIZE	PERCENT PASSING
25 mm	
19 mm	
12.5 mm	
9.5 mm	100.0
4.75 mm	99.8

SIEVE SIZE	PERCENT PASSING
2 mm	99.6
1.18 mm	99.4
0.43 mm	98.9
0.25 mm	98.1
0.15 mm	96.8

PARTICLE SIZE	PERCENT PASSING
75 µm	96.1
5 µm	76.6
2 µm	70.2
1 µm	65.7

Hydrometer analysis conducted on material passing the 75 µm sieve.

COMMENTS

Page 1 of 1 2006.Mar.15

REVIEWED BY *Rob Hochkovich*
 Rob Hochkovich, C. Tech.

Particle Size Analysis T4 for Machray Avenue



**PARTICLE SIZE ANALYSIS
 ASTM D422**

TO
 Wardrop Engineering Inc.
 400-386 Broadway
 Winnipeg, Manitoba
 R3C 4M8

CLIENT Wardrop Engineering Inc.
 C.C.

PROJECT 2006 Winnipeg Streets Reconstruction

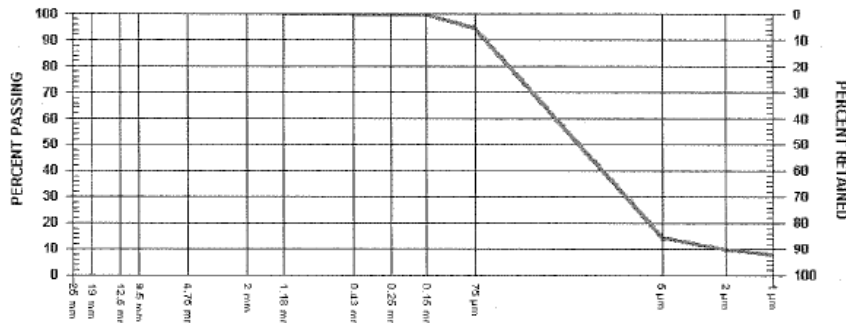
ATTN: Dean Lazaruk

REPORT NO. 2

PROJECT NO. WAR-601

SAMPLED BY R. Brown
 SAMPLE ID TH4-1.8 m, 340 Machray

DATE RECEIVED 2006.Jan.16
 TESTED BY R. Brown



SIEVE SIZE	PERCENT PASSING
25 mm	
19 mm	
12.5 mm	
9.5 mm	
4.75 mm	

SIEVE SIZE	PERCENT PASSING
2 mm	100.0
1.18 mm	99.9
0.43 mm	99.8
0.25 mm	99.8
0.15 mm	99.8

PARTICLE SIZE	PERCENT PASSING
75 µm	94.6
5 µm	14.7
2 µm	9.8
1 µm	7.7

Hydrometer analysis conducted on material passing the 75 µm sieve.

COMMENTS

Page 1 of 1 2006.Mar.15

REVIEWED BY

Robert Hochkiewicz
 Rob Hochkiewicz, C. Tech.

Pavement Core Photos For Machray Avenue

